

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed March 28, 2007. Claims 1-14 remain pending in the present application. Reconsideration and allowance of the application and pending claims are respectfully requested.

Response to Rejections of Claims under 35 U.S.C. §102

Claims 1-14 have been rejected under 35 U.S.C. §102(b) as being anticipated by *French* ("The Hi-Noon Neural Simulator and its Applications to Animal, Animat and Humanoid Studies). Applicants respectfully traverse this rejection.

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed subject matter must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. §102(b). In the present case, not every feature of the claimed subject matter is represented in the *French* reference.

a. Claim 1

As provided in independent claim 1, Applicants claim:

A method of simulating a creature for use in two different complexities of simulation, the method comprising:

***utilizing a model of the creature that comprises at least two portions:
a first portion which contains functions for use in both of said
different complexities of simulation; and
a second portion comprising two alternative versions:
a first version for use in one of said different complexities
of simulation; and
a second version for use in the other of said
different complexities of simulation.***

(Emphasis added).

Applicants respectfully submit that independent claim 1 is allowable for at least the reason that *French* does not disclose, teach, or suggest at least "utilizing a model of the creature that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of

said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited and emphasized above in claim 1.

Rather, *French* describes a Hi-NOON program that facilitates simulation of neurons where each neuron type is modeled at different levels of abstraction. Accordingly, a "noisy" neuron is similar to a "basic" neuron but is modeled to have an additional internal noise component. A "ramp" neuron is similar to a "noisy" neuron but is modeled to have an ability to ramp up spike generation rate. See section 2.4 on page 2054. Each of the types of neurons are used in a simulation and are not restricted to being used in one level of complexity of simulation where a corresponding neuron model is used in a second level of complexity. Accordingly, this allows a "non-homogeneous population of neurons to be simulated" in *French*. See section 2.4 on page 2054.

As a result, *French* fails to teach or suggest "utilizing a model of the creature that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited in claim 1. For at least these reasons, *French* does not teach or suggest all of the features of claim 1, and the rejection of claim 1 should be withdrawn.

b. Claims 2-8

Because independent claim 1 is allowable over the cited art of record, dependent claims 2-8 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that dependent claims 2-8 contain all the features of independent claim 1. For at least this reason, the rejections of claims 2-8 should be withdrawn.

c. Claim 9

As provided in independent claim 9, Applicants claim:

A method of simulating activities of a plurality of creatures, the method comprising ***utilizing at least two modes of simulation:***

a first mode arranged to simulate the activities of all of said creatures; and

a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions:

a first portion which contains functions arranged for use in both of said modes of simulation; and

a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode.

(Emphasis added).

Applicants respectfully submit that independent claim 9 is allowable for at least the reason that *French* does not disclose, teach, or suggest at least "utilizing at least two modes of simulation: a first mode arranged to simulate the activities of all of said creatures; and a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions: a first portion which contains functions arranged for use in both of said modes of simulation; and a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode," as recited and emphasized above in claim 9.

Rather, *French* describes a Hi-NOON program that facilitates simulation of neurons where each neuron type is modeled at different levels of abstraction. Accordingly, a "noisy" neuron is similar to a "basic" neuron but is modeled to have an additional internal noise component. A "ramp" neuron is similar to a "noisy" neuron but is modeled to have an ability to ramp up spike generation rate. See section 2.4 on page 2054. Each of the types of neurons are used in a simulation and are not restricted to being used in one level of complexity of simulation where a corresponding neuron model is used in a second level of complexity. Accordingly, this allows a "non-homogeneous population of neurons to be simulated" in *French*. See section 2.4 on page 2054.

As a result, *French* fails to teach or suggest "utilizing at least two modes of simulation: a first mode arranged to simulate the activities of all of said creatures; and a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions: a first portion which contains functions arranged for use in both of said modes of simulation; and a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode," as recited in claim 9. For at least these reasons, *French* does not teach or suggest all of the features of claim 9, and the rejection of claim 9 should be withdrawn.

d. Claim 10

As provided in independent claim 10, Applicants claim:

A method of simulating a process at two different levels of complexity, the method comprising:

utilizing a model that comprises at least two portions:

a first portion which contains functions for use in both of said different complexities of simulation; and

a second portion comprising two alternative versions:

a first version for use in one of said different complexities of simulation; and

a second version for use in the other of said different complexities of simulation.

(Emphasis added).

Applicants respectfully submit that independent claim 10 is allowable for at least the reason that *French* does not disclose, teach, or suggest at least "utilizing a model that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited and emphasized above in claim 10.

Rather, *French* describes a Hi-NOON program that facilitates simulation of neurons where each neuron type is modeled at different levels of abstraction. Accordingly, a "noisy" neuron is similar to a "basic" neuron but is modeled to have an additional internal noise component. A "ramp" neuron is similar to a "noisy" neuron but is modeled to have an ability to ramp up spike generation rate. See section 2.4

on page 2054. Each of the types of neurons are used in a simulation and are not restricted to being used in one level of complexity of simulation where a corresponding neuron model is used in a second level of complexity. Accordingly, this allows a "non-homogeneous population of neurons to be simulated" in *French*. See section 2.4 on page 2054.

As a result, *French* fails to teach or suggest "utilizing a model that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited in claim 10. For at least these reasons, *French* does not teach or suggest all of the features of claim 10, and the rejection of claim 10 should be withdrawn.

e. **Claims 11-13**

Because independent claim 10 is allowable over the cited art of record, dependent claims 11-13 (which depend from independent claim 10) are allowable as a matter of law for at least the reason that dependent claims 11-13 contain all the features of independent claim 10. For at least this reason, the rejections of claims 11-13 should be withdrawn.

f. **Claim 14**

As provided in independent claim 14, Applicants claim:

A simulator device arranged to simulate a creature in two different complexities of simulation, ***the device being arranged to utilise a model of the creature that comprises at least two portions:***

a first portion which contains functions used in both of said different complexities of simulation; and

a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation.

(Emphasis added).

Applicants respectfully submit that independent claim 14 is allowable for at least the reason that *French* does not disclose, teach, or suggest at least a "device

being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited and emphasized above in claim 14.

Rather, *French* describes a Hi-NOON program that facilitates simulation of neurons where each neuron type is modeled at different levels of abstraction. Accordingly, a "noisy" neuron is similar to a "basic" neuron but is modeled to have an additional internal noise component. A "ramp" neuron is similar to a "noisy" neuron but is modeled to have an ability to ramp up spike generation rate. See section 2.4 on page 2054. Each of the types of neurons are used in a simulation and are not restricted to being used in one level of complexity of simulation where a corresponding neuron model is used in a second level of complexity. Accordingly, this allows a "non-homogeneous population of neurons to be simulated" in *French*. See section 2.4 on page 2054.

As a result, *French* fails to teach or suggest a "device being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited in claim 14. For at least these reasons, *French* does not teach or suggest all of the features of claim 14, and the rejection of claim 14 should be withdrawn.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,



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